

SHOWER SCREEN WITH ILLUMINATION

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## Description

[0001] The invention is directed to a shower screen comprising at least one panel-shaped element which is provided with a seal at least at one front edge.

[0002] Shower screens of the type mentioned above are sufficiently well known. As a rule, they comprise a plurality of panel-shaped elements combining to form a shower stall. Seals are provided at the front edges of the panel-shaped elements and form the transition to an adjoining element. The elements are made of glass or plastic, for example, and can be transparent or can be given any color. In every case, the individual elements form a large-surface, three-dimensional element which is not always in harmony with its surroundings.

[0003] Further, DE 39 07 607 C2 describes a shower screen having, in addition, a multipurpose module which is mounted on the frame side and which, among other things, illuminates the shower from the inside and from the outside.

[0004] Therefore, it is the object of the present invention to provide a shower screen which is improved with respect to its visual effect.

[0005] This object is met through the features indicated in patent claim 1. Advantageous developments of the subject matter of patent claim 1 are indicated in the subclaims.

[0006] By providing lighting means in the seal, visual effects are produced which enliven the large-surface elements of the shower screen and make it possible to adapt to different room conditions in an improved manner. For example, the light can exit through the seal when an appropriate material is used for the seal.

[0007] According to an advantageous further development, the light enters the panel-shaped element through the front edge of the panel-shaped element. Not only does this produce a fanciful effect which can be further enhanced by providing the elements with patterns such as stripes, bubbles or the like, but also increases the visual effect when the light can exit over the surface of the panel-shaped elements as well as through the seals.

[0008] The light can be introduced into the panel-shaped element in a particularly simple manner when the lighting means are arranged in front of the front edge of the panel-shaped elements. Accordingly, the light can be introduced directly in the plane of the panel-shaped element.

[0009] According to an advantageous further development, the seal has a cavity in which the lighting means, preferably LEDs, are arranged in order to protect the lighting means

against damage from water, moisture, etc. Instead of an LED, other lighting means can also be used, preferably lighting means having a low energy consumption.

[0010] The protection of the lighting means from external influences can be further improved in an advantageous further development when the cavity is at least partially filled with a sealing compound. This prevents the penetration of moisture and, therefore, damage to the lighting means or danger to the user in a safe and dependable manner.

[0011] According to a preferred embodiment form, the lighting means extend over at least part of the length of the panel-shaped element, but preferably over the entire vertical length of the panel-shaped element. The lighting means are therefore preferably provided only at the vertical front edges of the panel-shaped elements. However, it is also possible to illuminate the horizontal front edges of the panel-shaped element in addition.

[0012] In order to ensure a visually inconspicuous power line to the lighting means, it is provided in an advantageous further development that the panel-shaped elements are preferably provided at their underside with a bottom seal in which the cables for supplying power to the LEDs are accommodated.

[0013] The cables can be accommodated in the bottom seal in two ways. In a first variant, the cables are cast integral with the bottom seal. In an alternative embodiment form, a cable space for receiving the cables is provided in the bottom seal. In both cases, not only is a virtually invisible power line achieved, but the power line is also accommodated so as to be safe from external influences.

[0014] When the seal is constructed for receiving two panel-shaped elements, e.g., so as to form a 90-degree corner, the seal in a preferred construction has two rows of LEDs which emit their light in different directions.

[0015] Further details, features and advantages of the invention are indicated in the following description of preferred embodiment examples with reference to the drawings.

[0016] Figure 1 shows an overall view of a shower screen according to the invention;  
Figure 2 shows a side view of the panel-shaped elements forming the shower screen;  
Figure 3 shows a section along line A-A in Figure 2 through a panel-shaped element in the lower area according to a first construction variant;

Figure 3a shows a section along line A-A in Figure 2 through a panel-shaped element in the lower area according to a second construction variant;

Figure 4 shows a first embodiment form of a panel-shaped element constructed according to the invention in the area of the front edge;

Figure 5 shows a second embodiment form of a panel-shaped element constructed according to the invention in the area of the front edge;

Figure 6 shows a third embodiment form of a panel-shaped element constructed according to the invention in the area of the front edge;

Figure 7 shows a fourth embodiment form of a panel-shaped element constructed according to the invention in the area of the front edge.

[0017] Figure 1 shows a shower screen which is arranged on a shower base 1. The shower screen comprises a plurality of panel-shaped elements 3, 4 which are constructed so as to be partly planar and partly curved or which can also be constructed so as only to be curved or planar, respectively. The panel-shaped elements 3, 4 have at least one stationary side part 3 which is fastened to a wall 2 and at least one displaceable panel 4. Instead of a displaceable panel, a swivelable panel can also be provided.

[0018] Figure 2 is a side view of a stationary side part 3 and a displaceable panel 4. At the underside, there is a bottom seal 5 which can be arranged at the stationary side part 3 as well as at the displaceable panel 4. The seal 5 is provided with a floor sealing lip 9 which is supported at the floor 10 of the shower base 1 and provides for sealing.

[0019] This bottom seal 5 is shown in Figures 3 and 3a in two construction variants.

[0020] According to the embodiment form in Figure 3, the bottom seal 5 has two side lips 8 which contact the side surfaces of the elements 3, 4 in such a way that a cable space 6 is formed inside the bottom seal 5 between the lips 8 and below the element 3, 4. Cables 7 can be guided in this cable space 6. In order to protect the cable 7, the cable space 6 can also be filled with a sealing compound in addition.

[0021] Figure 3a shows a second embodiment form of the bottom seal 5 in which the cables 7 are enclosed directly in the sealing material. The seal 5 with the cable 7 can be fastened to the element 3, 4, e.g., by gluing or in some other manner.

[0022] Figures 4 to 7 show different construction variants of the shower screen according to the invention. The element 3, 4 can be a stationary side part 3 as well as a swivelable or displaceable panel 4 which is movable in movement directions 19, 20 and 21, 22, respectively.

[0023] A seal 15, 23, 25 is provided at the front edge 11 in the elements 3, 4 of the shower screen shown in Figures 4 to 6. This seal 15, 23, 25 contacts the element 3, 4 with side lips 8 in such a way that a cavity is formed in front of the front edge of the element 3, 4. Lighting means, preferably LEDs 12 or other lighting means consuming little energy, are arranged in this cavity. The LEDs 12 are arranged in such a way that their light is directed onto the front

edge 11 of the element 3, 4 and can enter the element 3, 4 by this front edge 11 and is then emitted through the side surfaces. At the same time, the light of the LEDs 12 can also exit through the seal 15, 23, 25 to a greater or lesser degree depending on the construction of the seal 15, 23, 25. The LEDs 12 are arranged in a box-shaped free space 18 inside the seal 15, 23, 25. On the side of the free space 18 remote of the front edge 11, a board 13 is connected with the LEDs 12. The LEDs 12 can be provided on at least one of the front edges 11 of at least one of the elements 3, 4 and can extend over at least a part of the length of the front edges 11. However, the arrangement of the LEDs 12 is particularly effective when they are arranged over the entire vertical length of the front edges 11 of the elements 3, 4. The cavity in the seal 15 in which the lighting means 12 are arranged is entirely or partly filled with a sealing compound 14 to protect against the penetration of moisture.

[0024] Figures 4 to 7 show different embodiment forms of the seals 15, 23, 25 that are used depending on the construction of the shower stall.

[0025] In the seal 15 shown in Figure 4, a cavity 17 is provided on the side remote of the front edge 11. A magnet insert 16 which can be used for a tight connection with another element 3, 4 of the shower screen is arranged in this cavity 17.

[0026] Figure 5 shows another embodiment form of the seal 23 in which a stop lip 24 is provided at the side remote of the front edge 11. Further, in this embodiment form, only the panel 4 is provided with lighting means 12, while the stationary side part 3 has no lighting means 12 at least on the side facing the panel 4.

[0027] Figure 6 shows an embodiment form similar to that in Figure 5; in this case, however, a seal 25 with LEDs 12 is also arranged at the stationary side part 3.

[0028] Figure 7 shows a corner construction in which two elements 3, 4 meet at an angle of 90°. In this case, the seal 25 comprises a ninety-degree angle piece which joins the two elements 3, 4. LEDs 12 whose light is emitted in different directions are arranged in the seal 25. Some of the LEDs 12 are arranged at the front edge 11 of one element 3, 4, while the other LEDs 12 are arranged at the front edge 11 of the other element 3, 4. The cables 7 for connecting the LEDs 12 are guided in the cavity formed in the seal 25 between the two elements 3, 4. Further, the cavity can be filled with sealing compound.

[0029] The LEDs 12 can be provided with an additional circuit which makes it possible to vary the light radiated by the LEDs 12 with respect to duration of illumination, brightness and/or color mixture. Further, the LEDs 12 can be controlled depending on incident daylight, depending on the presence of a person, or according to any other program.

[0030] The preceding description of the shower screen according to the present invention is intended only for illustrative purposes and not to limit the invention. Various changes and modifications are possible within the framework of the invention without departing from the scope of the invention or its equivalents.

[0031] Reference Numbers

- 1 shower base
- 2 wall
- 3 stationary side part
- 4 displaceable panel
- 5 bottom seal
- 6 cable space
- 7 cable
- 8 lip
- 9 floor sealing lip
- 10 floor of shower base
- 11 front edge
- 12 LED
- 13 board
- 14 sealing compound
- 15 seal
- 16 magnet insert
- 17 cavity
- 18 free space
- 19 movement direction
- 20 movement direction
- 21 movement direction
- 22 movement direction
- 23 seal
- 24 stop lip
- 25 seal